

~~METHOD OF COATING STATOR BAR AND STATOR BAR~~
~~EPoxy SPRAY LINING FOR LIQUID-COOLED GENERATOR STATOR BAR~~
~~END FITTING~~ ~~CLIPS~~

BACKGROUND OF THE INVENTION

[0001] The present invention relates to a method for creating a uniform epoxy lining on the end surface of liquid-cooling stator bar clip-to-strand braze joints.

[0002] Water-cooled stator bars for electrical generators are comprised of a plurality of small rectangular solid and hollow copper strands which are brazed to one another and to an end fitting in which the strands are received. The end fitting serves as both an electrical and a hydraulic connection for the stator bar. The end fitting typically includes an enclosed chamber for ingress or egress of stator bar cooling liquid, typically deionized water. Another opening of the end fitting receives the ends of the strands of the stator bar, with the fitting and peripherally outermost copper strands of the stator bar being brazed to one another. Over time, leaks have developed about the connection between the stator bar ends and the stator bar fitting (or clip) as well as between adjacent strands. It is believed, based on leak analysis results, that the leak mechanism is due to corrosion which initiates in the braze alloy at the interior surface of the braze joint, oftentimes where stagnant water contacts the interface of the braze alloy and the copper strands.

[0003] Currently, an epoxy injection technique has been employed as a leak repair method as disclosed, for example, in commonly owned U.S. Patent 5,605,590. The